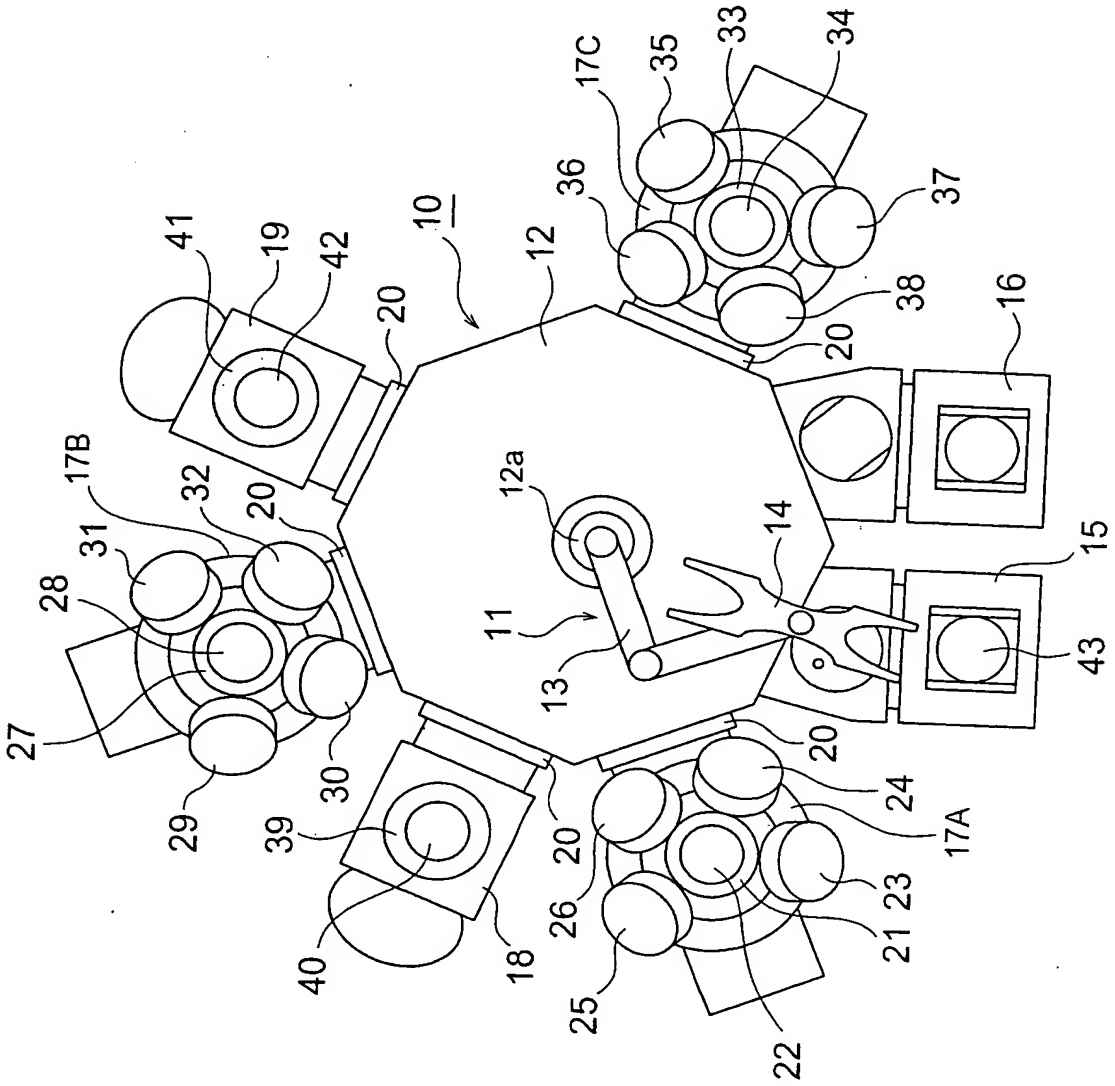
FIG. 1


10
11
12
12a
13
14
15
16
17A
17B
17C
18
19
20
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23
24
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42
43

FIG. 2

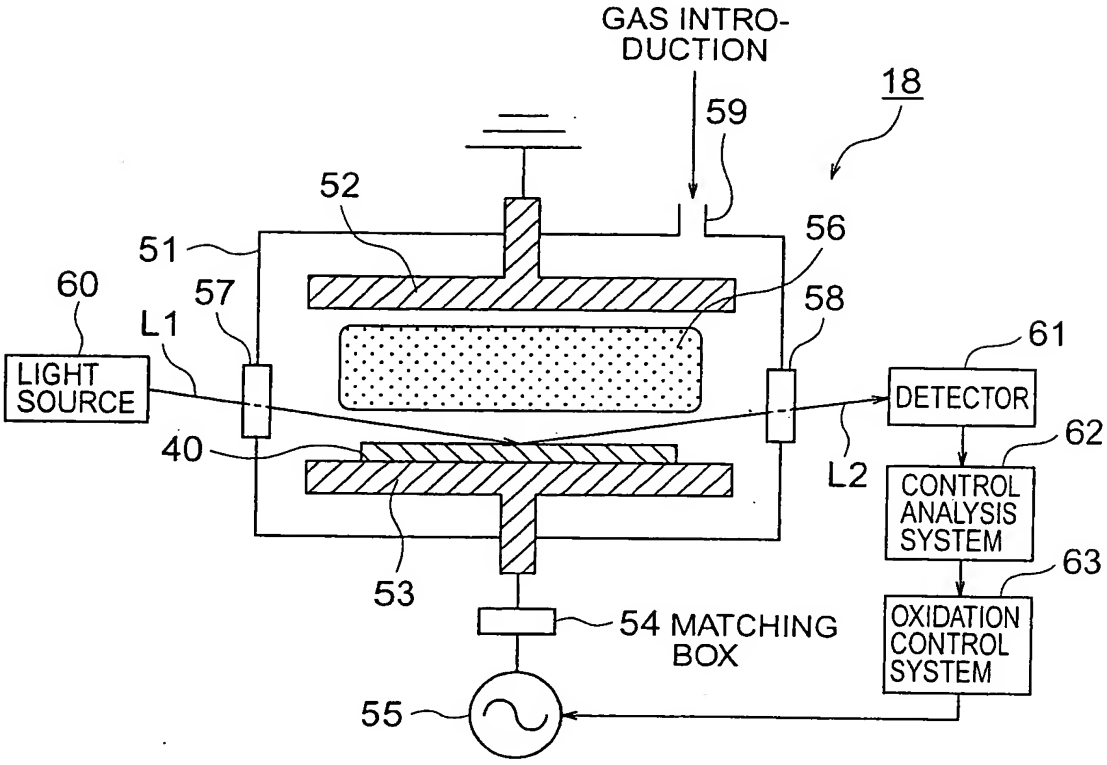
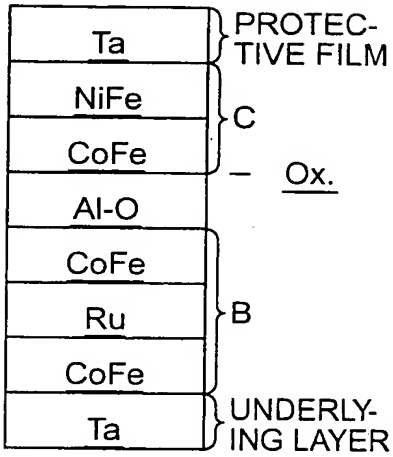
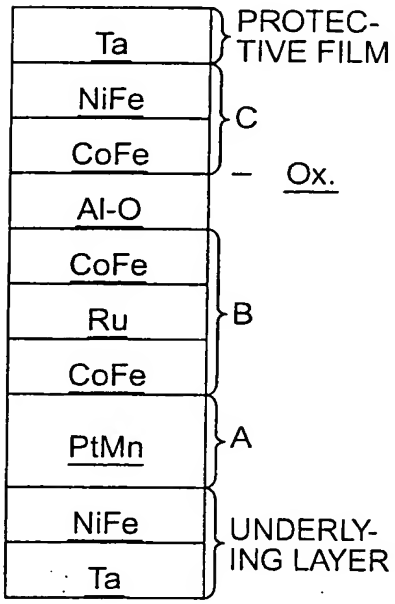

GAS INTRO-
DUCTION
59
18
52
56
51
60
57
58
L1
61
LIGHT
SOURCE
DETECTOR
40
62
L2
CONTROL
ANALYSIS
SYSTEM
63
53
54 MATCHING
BOX
OXIDATION
CONTROL
SYSTEM
55

FIG. 3A



MRAM

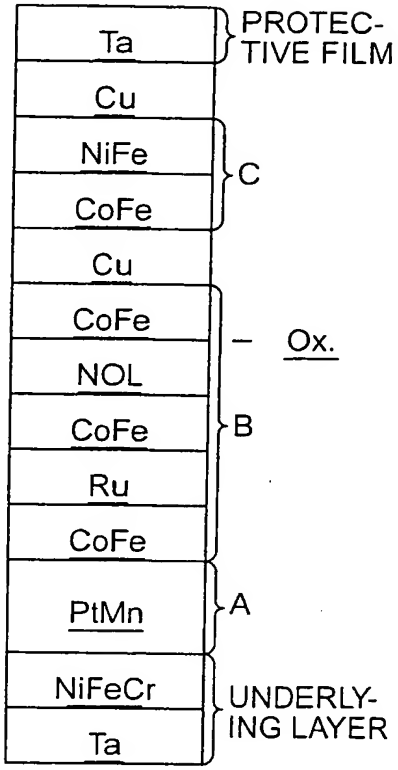
FIG. 3B



TMR HEAD / MRAM

FIG. 3C

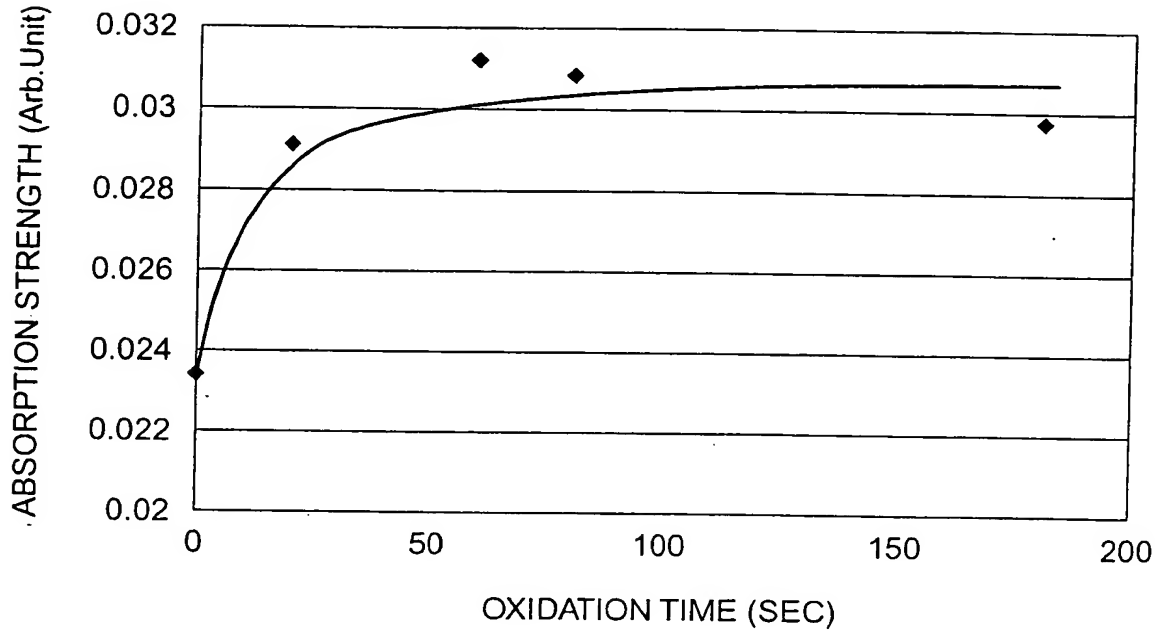
(13 LAYER)



ADVANCED GMR HEAD

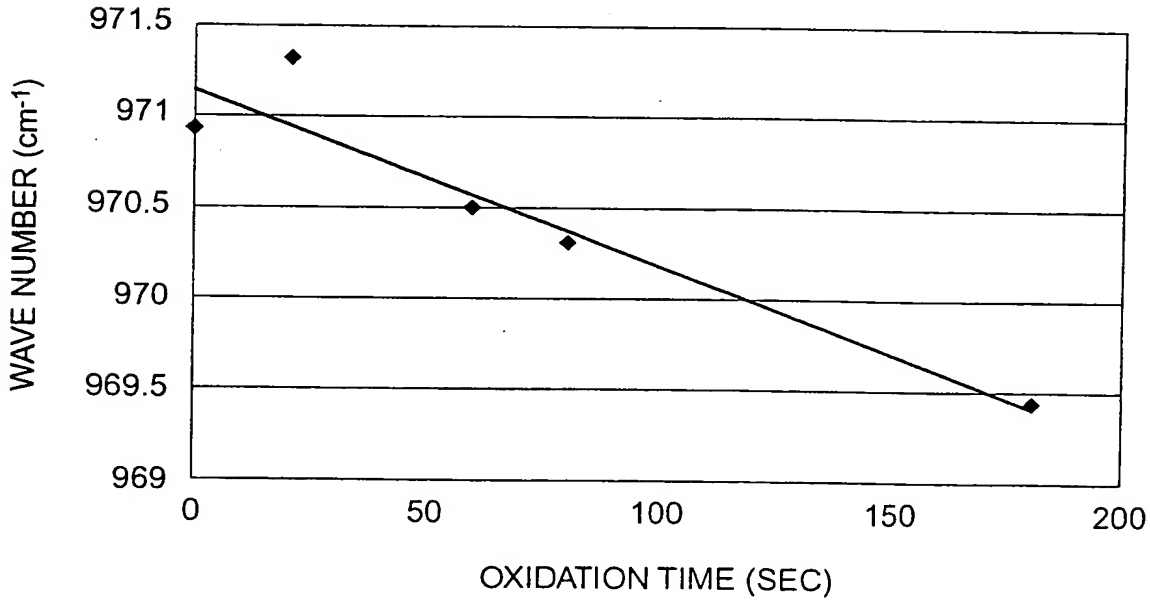
A : ANTIFERROMAGNETIC LAYER
B : PIN LAYER
C : FREE LAYER
Al-O : Al OXIDE FILM(INSULATING FILM)
Cu : NONMAGNETIC FILM
Ox. : OXIDATION TREATMENT

FIG. 4



RELATIONSHIP BETWEEN ABSORPTION INTENSITY NEAR 970cm^{-1} AND Al OXIDATION TIME

FIG. 5



RELATIONSHIP BETWEEN POSITION OF Al-O BAND AND Al OXIDATION TIME